

## PD measurement during commissioning test of a 320kV HVDC link

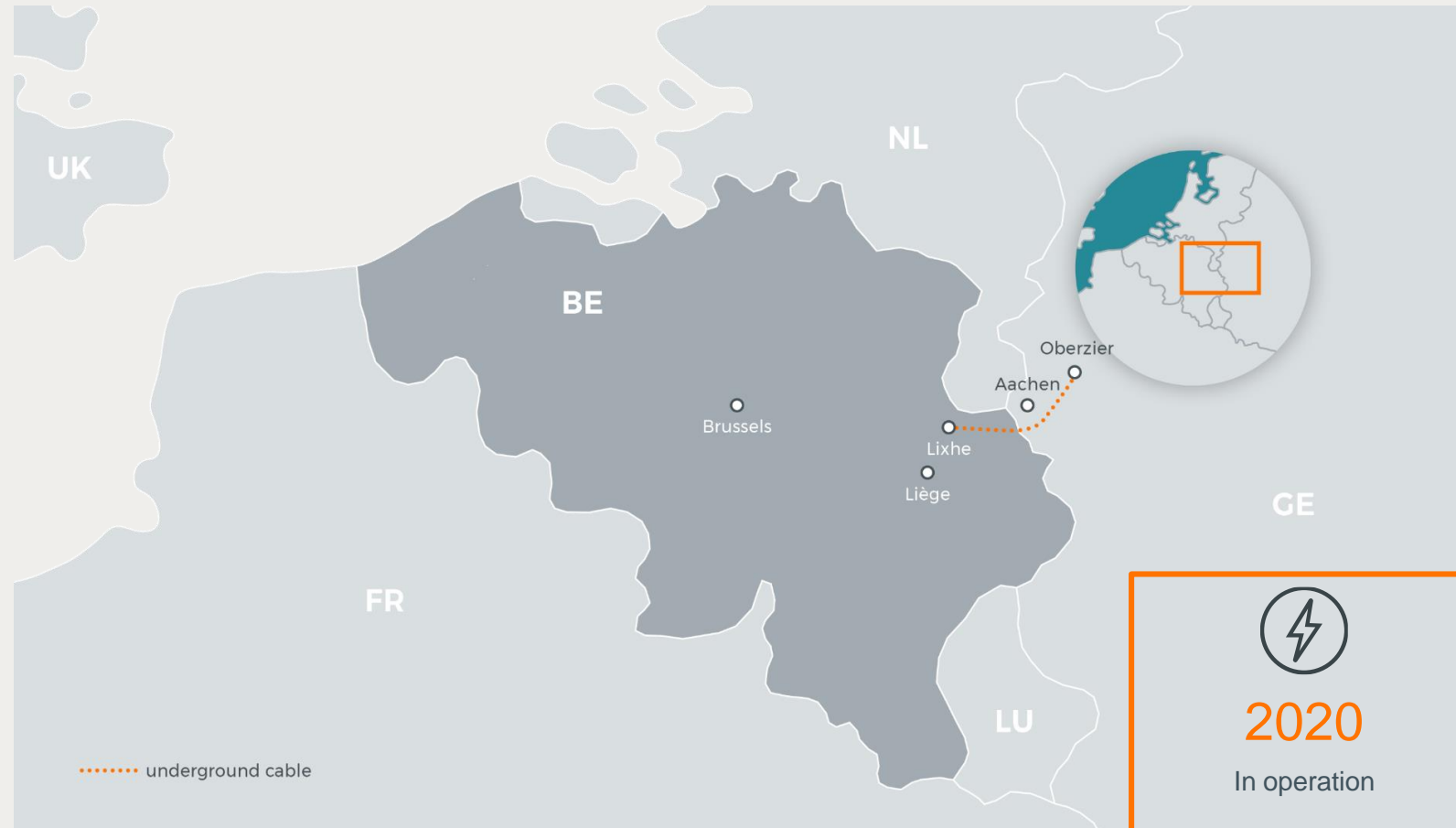
### SC B1 Insulated Cables - PS1-Q1

With PD measurements and analysis for initial installation and long-term monitoring, has the application of this monitoring system become commonly used and what challenges remain for using this technology e.g. on long HVDC cable systems?

Bart Mampaey, Belgium



# PD measurement during commissioning test of a 320kV HVDC link




  
**First**  
interconnector  
BE-DE

  
**90 km**  
320kV HVDC XLPE  
(BE-DE)



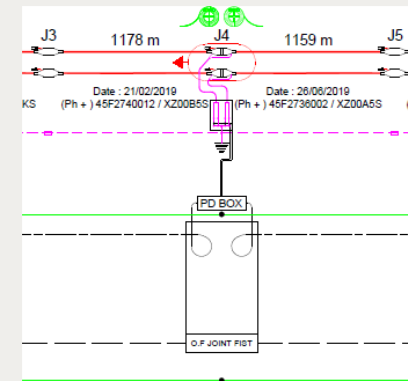
  
**2020**  
In operation

  
**1000 MW**  
Maximum power

Group Discussion Meeting

# PD measurement during commissioning test of a 320kV HVDC link

- Experience with PD measurements during commissioning test
  - Proven experience on HVAC (main use is to test the jointing works)
  - Non to very limited experience on HVDC
- Solution applied for the ALEGrO project:
  - Perform a HVAC test during commissioning
  - Include PD measurements during this HVAC test
  - Impact on FAT test (no HVDC test applied during FAT)
  - Include base equipment for PD measurement (Sensors, FO for communication, space for active equipment and batteries)



Group Discussion Meeting

# PD measurement during commissioning test of a 320kV HVDC link

Online PD measurements is applied on some HVAC cables, however added value still under evaluation

Remaining challenges for long HVDC links

- Experience with PD measurements on HVDC
- Infrastructure needed for **online** PD measurements on (very) long HVDC cables
  - Fiber optics for communication (no real problem)
  - Power supply for active equipment (challenging)
- HVDC links are often offshore cables → solution to measure PD's on offshore cables

Group Discussion Meeting